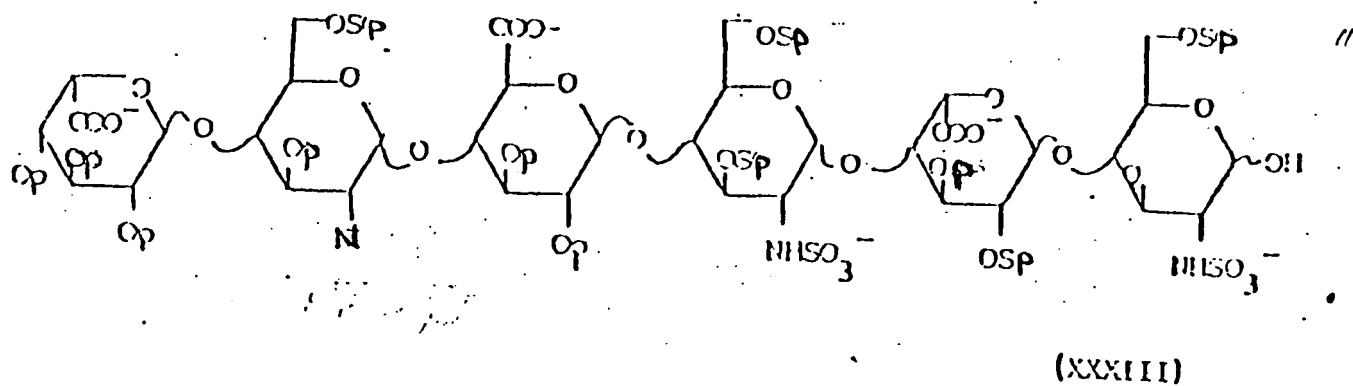
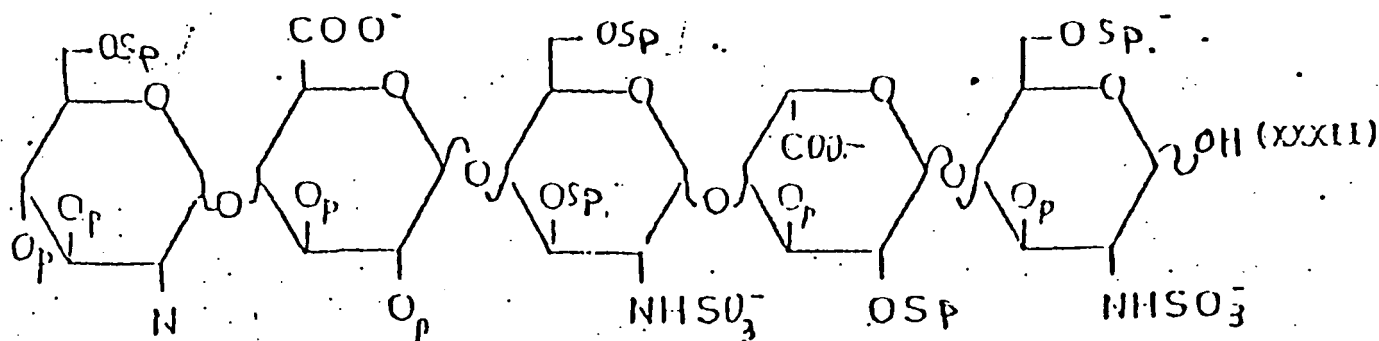
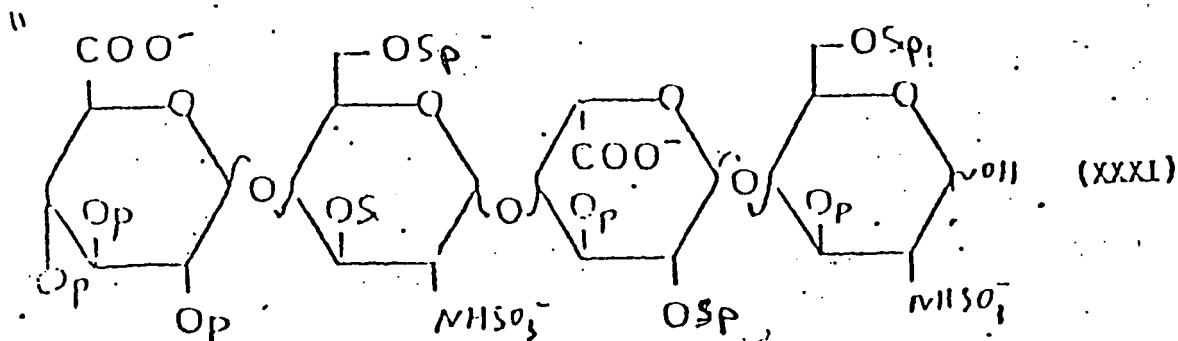


IN THE CLAIMS

Amend the claims as follows:

Claim 101, delete



Claim 104, delete "1014" and insert -- 101 --.

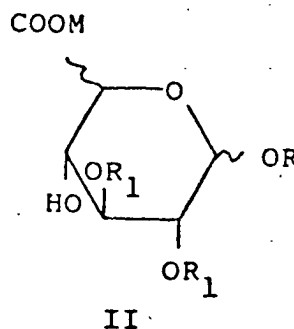
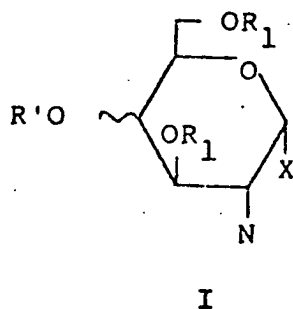
Claim 122, after "claim" insert --121.

Kindly add the following claims

125. A process for the preparation of a synthetic pure oligosaccharide corresponding to a heparinic mucopolysaccharide having from 2 to 12 saccharide units which comprises the sequence of steps of

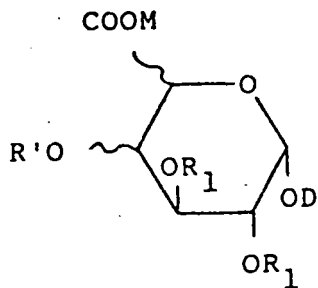
1) reacting two saccharides to form a link between said saccharides which reaction is selected from the group consisting of

A) condensing a D-glucosamine (I) with <sup>an</sup> a uronic acid (II)

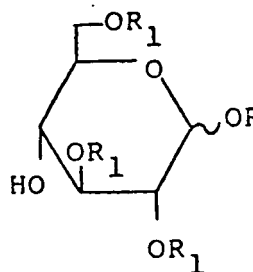


to form a 1 $\rightarrow$ 4 linkage between I and II, and

B) condensing a uronic acid (III) with a  
D-glucosamine (IV)



III



IV

to form a 1 4 linkage between III and IV, wherein

X is halogen,

OD is O-imidoyl or together with the adjacent OR, is  
an orthoester,

N is N<sub>3</sub>, N-acetyl or N-benzyl,

M is an alkyl or acyl,

R<sub>1</sub> is an -OH protecting group selected from the  
group consisting of acyl, alkyl, substituted alkyl, aryl, cetal  
or acetal between two R<sub>1</sub> groups adjacent to each other; 1,6-  
anhydro bridge between R<sub>1</sub> and R; and in formula IV, two OR<sub>1</sub>  
groups form an epoxy group; provided that at least one R<sub>1</sub>  
group is different from the other R<sub>1</sub> groups;

R' and R, identical or different, are selected from the group consisting of R<sub>1</sub>, a glucosamine, uronic acid; an oligosaccharide having glucosamine and uronic acid units wherein R' and R of the glucosamine, uronic acid or oligosaccharide are OT; T being selected from the group consisting of allyl, propenyl, acyl, halogenated acyl and p-methoxybenzoyl, with the proviso that R + R' are  $\leq$  10 saccharide units; and T; and wherein additionally OR is selected from the group consisting of X and -OD,

2) hydrolyzing the acyl groups and obtaining free -OH groups,

72 cont  
3) reacting the -OH groups with a sulfonating agent or acylation agent to obtain -OSO<sub>2</sub>- or acyl groups, and

4) removing the remaining R<sub>1</sub> groups by catalytic hydrogenation to obtain free -OH groups.

126. The process of claim 125 which, when R' or R is T, a monosaccharide or an oligosaccharide, further comprises after the condensation, removing T to form -OH and repeating said removal and condensation steps until the desired number of saccharides are linked.

127. The process of claim 125 wherein R<sub>1</sub> is acetyl in the positions which are to be substituted by -SO<sub>3</sub> or acyl and benzyl in the positions which are to be OH.

128. The process of claim 125 wherein T is selected from the group consisting of allyl, chloroacetyl and p-methoxybenzoyl.

129. The process of claim 127 wherein the acetyl groups are hydrolyzed by saponification with a strong base followed reaction with a sulfation or acylation agent.

130. The process of 125 wherein  $N_3$  is converted to  $NH_2$  during the catalytic hydrogenation step.

72 cont  
131. The process of claim 130 which further comprises reacting the  $NH_2$  group with an agent selected from a sulfation agent and an acylation agent and obtaining  $-NH-SO_3^-$  and NH-acyl, respectively.

132. The process of claims 125 which further comprises saponifying COOM with a strong base and obtaining  $COO^-$ .

133. The process of claim 134 which further comprises salifying the  $COO^-$  group with an alkaline metal.

134. The process of claim 125 which further comprises using a structural analog in place of at least one D-glucosamine or uronic acid wherein the structural analog is selected

from the group consisting of a neutral sugar, a desoxy-sugar, uronic acid units and D-glucosamine units of different configurations.

135. The process of claim 125 wherein a condensation reaction between a halide and an OH is carried out in a solvent medium in the presence of a catalyst.

72  
cont  
136. The process of claim 135 wherein the organic solvent is selected from the group consisting of dichloromethane or dichloroethane and the catalyst is selected from the group consisting of a silver or mercury salt.

137. The process of claim 136 wherein the catalyst is silver trifluoromethane sulfonate, silver carbonate, silver oxide, mercuric bromide or mercuric cyanide.

138. The process of claim 134 wherein the structural analog of L-iduronic acid (III) is L-idose.

139. The process of claim 125 wherein when OD is 1, 2-O-methoxyethylidene, the condensation is carried out in a solvent which boils above 100°C in the presence of a catalyst.